

The marvelous harmony of his many phrases places him at once in a rank by himself and forces us to drop a dubious comparison. Still the Fox Sparrow is likely to win a more affectionate regard from the majority of bird-lovers, on account of his brighter music, dancing forth as it does in a perfect abandon of joy. At any rate he is the master songster¹ of the Magdalens and particularly acceptable in that sea-world, whose history is bound up with shipwreck and whose customary music is the buzzing of Savannah Sparrow, rasping of Rusty Blackbird, quavering of Wilson's Snipe, pumping of Bittern, rattling of Rail, croak of Raven, and mocking laughter of the Loon.

CONCEALING ACTION OF THE BITTERN (*BOTAURUS LENTIGINOSUS*).

BY WALTER BRADFORD BARROWS.

THE adaptive, concealing or protective coloration of the common Bittern is so well known to all ornithologists and to most other bird lovers that it hardly needs mention here. It is also a matter of common observation that this remarkable bird has the habit of standing motionless for minutes at a time with its legs, body and outstretched neck all in the same line, the bill pointing directly toward the sky. In this position, with the wings and feathers of the trunk pressed closely to the sides, and perhaps the body itself somewhat flattened, the bird, at least from the usual point of view, closely resembles a weather beaten strip of board, a dead and bleached stub, or even a rather bulky last year's stalk of cat-tail flag.

In my own experience this attitude of the Bittern seems to be assumed most often immediately on alighting, and then after holding this rigid position for a few moments it rather quickly

¹ The Hermit Thrush is only locally distributed and uncommon in the Magdalen Islands.

draws down its head and neck into the more graceful position of a feeding heron and proceeds to walk about deliberately in search of food.

A few years ago I had an opportunity of observing closely one of these birds which exhibited a refinement of this concealing action which was entirely new to me and seemed indeed so remarkable that I hesitated to publish it until the literature of the subject had been searched with some care, and effort had been made to detect other individuals using the same device. The observation referred to was made on the campus of the Agricultural College, in Ingham County, Michigan, in August, 1905, on a Bittern which was found in an artificial pond in which water lilies, wild rice, narrow leaved cattails, sedges and some other water plants were growing. The pond was something less than one hundred yards in length and of irregular form, the widest parts, however, not more than fifteen or twenty yards across.

While at work in my office, in the middle of the afternoon, Mr. U. P. Hedrick, then professor of horticulture, came in breathlessly with the information that a large water bird had alighted in the lily pond and could be collected readily if wanted for the museum. Hurrying back with him to the edge of the pool the bird was nowhere to be seen, although we looked carefully in the place where it had been standing less than five minutes before. Skirting the water with some care and scanning every cluster of water plants on the way, we passed completely around the pool, returning at length to the point where we had first reached it, still without discovering the bird. The afternoon was bright and warm with a rather fitful breeze, there were few shrubs about our end of the pond, the water plants were not thick enough to hide a blackbird; it seemed certain that the bird had flown away.

As we stood talking about its disappearance, however, and while I was questioning my friend who is not an ornithologist as to its size, color and action, it suddenly appeared standing motionless and in plain sight at a distance of less than fifty feet, in water only a few inches deep and among scattered cattail flags which were nowhere close enough together to offer any real concealment. The bird, an adult Bittern (*Botaurus lentiginosus*) was in the characteristic erect and rigid attitude already described and so near to us that its yellow iris was distinctly visible.

Apparently both of us discovered the bird at the same instant and involuntarily gave exclamations of surprise that it had not been seen before, while my companion at once declared that it was within a few feet of the spot where he had left it when he came to call me. I told him what the bird was and called his attention to the protective coloration and posture; then, as we stood admiring the bird and his sublime confidence in his invisibility, a light breeze ruffled the surface of the previously calm water and set the cattail flags rustling and nodding as it passed. Instantly the Bittern began to sway gently from side to side with an undulating motion which was most pronounced in the neck but was participated in by the body and even the legs. So obvious was the motion that it was impossible to overlook it, yet when the breeze subsided and the flags became motionless the bird stood as rigid as before and left us wondering whether after all our eyes might not have deceived us.

It occurred to me that the flickering shadows from the swaying flags might have created the illusion and that the rippling water with its broken reflections possibly made it more complete; but another gentle breeze gave us an opportunity to repeat the observation with both these contingencies in mind and there was no escape from the conclusion that the motion of the Bittern was actual, not due to shadows or reflections, or even to the disturbance of the plumage by the wind itself. The bird stood with its back to the wind and its face toward us. We were within a dozen yards of it now and could see distinctly every mark of its rich, brown, black and buff plumage and yet if our eyes were turned away for an instant it was with difficulty that we could pick up the image again, so perfectly did it blend with the surrounding flags and so accurate was the imitation of their waving motion. This was repeated again and again, and when after ten or fifteen minutes we went back to our work, the bird was still standing near the same spot and in the same rigid position although by almost imperceptible steps it had moved a yard or more from its original station.

During the seven years which have elapsed since this occurrence I have improved every opportunity to watch for a repetition of this action, but thus far in vain. Many times I have had Bitterns

within sight and at short range, but the conditions never have been such as to favor the recognition of such motion had it existed. In one instance, in July, 1911, I watched a family of three young Bitterns more than two thirds grown which assumed the upright and rigid attitude as perfectly as the adults, except that they walked about more freely but without relaxing the strained position in the least. All the time, however, they kept their bodies almost completely hidden in the coarse grass and even the necks were so obscured by the tips of the grass that when this was set in motion by the wind I could not tell whether the neck remained quiet or not. The birds in this case occupied a little grass covered island in a muddy pool so that I could not readily get nearer than about thirty yards, and even with a six-power field-glass it was impossible to settle the question.

A somewhat careful examination has been made of American bird literature without finding any reference to this peculiar action, but the search has been by no means thorough. I have also examined such accounts as I could find of the action of the closely related European Bittern (*Botaurus stellaris*) without finding any reference to a similar performance, although the accounts and figures would lead one to believe that in voice and attitude as well as in general habits this bird closely resembles our own.